

# Calculator estimates success of kidney transplants with particular donor-recipient pairs

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Researchers have developed a calculator that estimates the likelihood that a given patient who receives a kidney transplant from a particular living donor would have a functioning kidney 5 and 10 years after transplantation. The calculator, which is described in an upcoming issue of the *Clinical Journal of the American Society of Nephrology* (CJASN), would provide useful information to kidney transplant candidates in general, but would be especially useful for a candidate who is choosing among different potential donors.

To develop the [calculator](#), a team led by John Kalbfleisch, PhD and Valarie Ashby, MA (University of Michigan) analyzed data on 232,705 recipients of kidney transplants from 1998 to 2012 who were listed in the Scientific Registry of Transplant Recipients. After taking into consideration donor and recipient characteristics, the investigators found that certain mismatches with respect to gender, weight, body size, genetic make-up, and age were associated with increased risks of graft failure. The findings were used to create a calculator of estimated [graft survival](#) following transplantation of kidneys from living donors.

Dr. Kalbfleisch noted that an area where this calculator may be especially useful is in kidney paired donation (KPD). Many [kidney transplant](#) candidates have willing living donors, but there are often incompatibilities with respect to blood type or genetic makeup between the two. In KPD programs, pools of incompatible donor and recipient pairs are formed with the aim of arranging exchanges to help overcome these incompatibilities. In some instances, a candidate with a compatible donor may decide to join a KPD pool with the purpose of seeking a better match through an exchange. When compatible pairs join a pool, this can be beneficial to other pairs in the

pool as well. "Our calculator allows the candidate with a compatible donor to compare the estimated graft survival for a [kidney](#) from their donor, versus one from another [donor](#) in the KPD pool," said Dr. Kalbfleisch.

**More information:** "A Kidney Graft Survival Calculator that Accounts for Mismatches in Age, Sex, HLA and Body Size," *Clinical Journal of the American Society of Nephrology* (2017). [DOI: 10.2215/CJN.09330916](https://doi.org/10.2215/CJN.09330916)

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